

ATTORNEY DOCKET
016295.0733
(DC-03225)

PATENT APPLICATION
10/005,936

J



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Jinsaku Masuyama et al.
Serial No.: 10/005,936
Date Filed: December 3, 2001
Group Art Unit: 2116
Examiner: Tse W. Chen
Title: **SYSTEM AND METHOD FOR
AUTONOMOUS POWER SEQUENCING**

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail No. 2584314246 addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA22313-1450, on the date shown below.

Jason Libby

11/14/05
Date

Dear Sir:

DECLARATION PURSUANT TO 37 C.F.R. § 1.131

I, the undersigned joint inventor of record, hereby declare and state that:

1. I am over the age of 21 years, of sound mind, and competent in all respects to make this Declaration.

2. I am an inventor of the subject matter of the above-referenced patent application, entitled **SYSTEM AND METHOD FOR AUTONOMOUS POWER SEQUENCING**, filed December 3, 2001.

3. The Examiner has rejected Claims 1-9, 11, 14-16, 18-23 and 25 under 35 U.S.C. § 103(a) in an Office Action mailed July 14, 2005, as being unpatentable over U.S. Patent Publication 2002/0198608 filed by Bruce Allen Smith ("Smith") in view of U.S. Patent

ATTORNEY DOCKET
016295.0733
(DC-03225)

PATENT APPLICATION
10/005,936

2

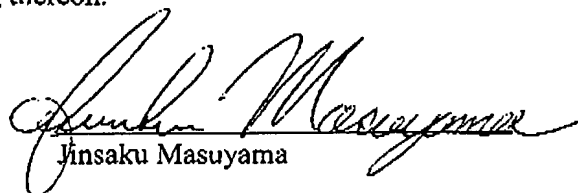
5,915,122 issued to Hiroshi Tsurumi ("Tsurumi") and U.S. Patent Publication 2002/0194412 filed by David A. Bottom ("Bottom").

4. The present invention was conceived and reduced to practice on or prior to May 01, 2001, approximately one month prior to the filing date of Smith and Bottom.

5. Such conception and reduction to practice is evidenced by the Dell Invention Disclosure Form attached as Exhibit A. The invention disclosure form was duly submitted using the electronic process described on Page 1 of the form. The disclosure was signed through electronic signature by two witnesses, my co-inventor, and myself. It was duly received by Dell legal personnel and assigned an internal invention disclosure number, which indicates that the receiving legal personnel independently verified the date of receipt. These events were all in accordance with standard procedure in place at Dell Computer Corporation for invention disclosure and independent verification thereof by at least one witness and Dell legal personnel.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. Further, I declare that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the Application or any patent issuing thereon.

Date: 10-13-2005


Jinsaku Masuyama

Date: _____

Jeremey Pionke

05-10-13 13:42

31947

(512) 723-1947 >> Baker Botts

P 3/3

ATTORNEY DOCKET
016295.0733
(DC-03225)

PATENT APPLICATION
10/005,936

3

EXHIBIT A



THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Jinsaku Masuyama et al.
Serial No.: 10/005,936
Date Filed: December 3, 2001
Group Art Unit: 2116
Examiner: Tse W. Chen
Title: **SYSTEM AND METHOD FOR
AUTONOMOUS POWER SEQUENCING**

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail No. 352436749 addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA22313-1450, on the date shown below.

Jason Kirby

Date

Dear Sir:

DECLARATION PURSUANT TO 37 C.F.R. § 1.131

I, the undersigned joint inventor of record, hereby declare and state that:

1. I am over the age of 21 years, of sound mind, and competent in all respects to make this Declaration.

2. I am an inventor of the subject matter of the above-referenced patent application, entitled **SYSTEM AND METHOD FOR AUTONOMOUS POWER SEQUENCING**, filed December 3, 2001.

3. The Examiner has rejected Claims 1-9, 11, 14-16, 18-23 and 25 under 35 U.S.C. § 103(a) in an Office Action mailed July 14, 2005, as being unpatentable over U.S. Patent Publication 2002/0198608 filed by Bruce Allen Smith ("Smith") in view of U.S. Patent

5,915,122 issued to Hiroshi Tsurumi ("Tsurumi") and U.S. Patent Publication 2002/0194412 filed by David A. Bottom ("Bottom").

4. The present invention was conceived and reduced to practice on or prior to May 01, 2001, approximately one month prior to the filing date of Smith and Bottom.

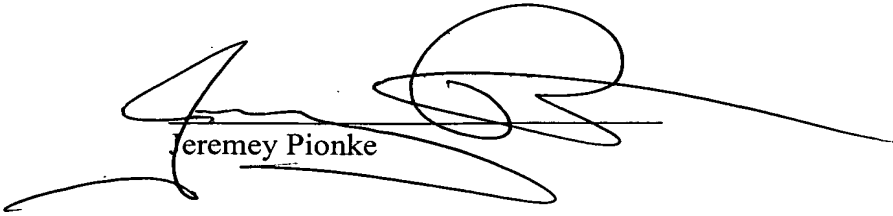
5. Such conception and reduction to practice is evidenced by the Dell Invention Disclosure Form attached as Exhibit A. The invention disclosure form was duly submitted using the electronic process described on Page 1 of the form. The disclosure was signed through electronic signature by two witnesses, my co-inventor, and myself. It was duly received by Dell legal personnel and assigned an internal invention disclosure number, which indicates that the receiving legal personnel independently verified the date of receipt. These events were all in accordance with standard procedure in place at Dell Computer Corporation for invention disclosure and independent verification thereof by at least one witness and Dell legal personnel.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. Further, I declare that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the Application or any patent issuing thereon.

Date: _____

Jinsaku Masuyama

Date: 10/25/05



Jeremey Pionke

ATTORNEY DOCKET
016295.0733
(DC-03225)

PATENT APPLICATION
10/005,936

3

EXHIBIT A

DELL CONFIDENTIAL

DC-03225

Received: August 01, 2001

INVENTION DISCLOSURE FORM

(Rev. 11/01/2000)

INSTRUCTIONS:

- Make sure all blanks in this form are **completely** filled out. Incomplete forms **can not be processed**.
- Please refer to actual calendar dates, not Dell Fiscal Year dates.
- **Inventor and Witness signatures are NOT required.** One inventor should fill out this form and list any other Inventors and two Witnesses. Make sure your witnesses understand the invention. Outside counsel will review legal inventorship when the patent application is drafted.
- Keep the overall disclosure size reasonably small (less than 350k is preferred) so it is suitable for electronic transmission; when submitting drawings or photos with the disclosure please import them from .JPG files which use compression internally.
- Send completed disclosure in Word format **via e-mail** to: **US INVENTION DISCLOSURE**

(Please do not modify the document above this line)

INVENTION TITLE:

Please supply a brief and descriptive title here:

Autonomous Digital Power Sequencing

INVENTOR INFORMATION:

(Must be filled out completely)

1 st Inventor Employee No.:	317430	Full Legal Name:	Jinsaku Masuyama
Home Phone:	512-733-8705	Work Phone No.:	512-723-2010
Reporting Director:	Robert Roemer	Department:	HVS Rack Systems
Reporting VP:	Randy Groves	Department:	ESG
Indicate if Inventor is Non-Dell employee contractor/consultant/terminated:			
Are you a Citizen of the U.S. ?	YES	If no, of which country are you a citizen?	

2 nd Inventor Employee No.:	319580	Full Legal Name:	Jeremey Pionke
Home Phone:	512-740-9582	Work Phone No.:	512-723-6343
Reporting Director:	Robert Roemer	Department:	HVS Rack Systems
Reporting VP:	Randy Groves	Department:	ESG
Indicate if Inventor is Non-Dell employee contractor/consultant/terminated:			
Are you a Citizen of the U.S. ?	YES	If no, of which country are you a citizen?	

3 rd Inventor Employee No.:		Full Legal Name:	
Home Phone:	512-555-5555	Work Phone No.:	512-555-5555
Reporting Director:		Department:	
Reporting VP:		Department:	
Indicate if Inventor is Non-Dell employee contractor/consultant/terminated:			
Are you a Citizen of the U.S. ?	Yes/No	If no, of which country are you a citizen?	

4 th Inventor Employee No.:		Full Legal Name:	
Home Phone:	512-555-5555	Work Phone No.:	512-555-5555
Reporting Director:		Department:	
Reporting VP:		Department:	
Indicate if Inventor is Non-Dell employee contractor/consultant/terminated:			
Are you a Citizen of the U.S. ?	Yes/No	If no, of which country are you a citizen?	

5 th Inventor Employee No.:		Full Legal Name:	
Home Phone:	512-555-5555	Work Phone No.:	512-555-5555
Reporting Director:		Department:	
Reporting VP:		Department:	
Indicate if Inventor is Non-Dell employee contractor/consultant/terminated:			
Are you a Citizen of the U.S. ?	Yes/No	If no, of which country are you a citizen?	

DEVELOPMENT PARTNER/CONSULTANT:

Was the invention developed in conjunction with a development partner or consultant that contributed to the invention?	No
If YES, please list here:	

PLEASE DO NOT SKIP THIS PART. This information is used to determine Dell's legal rights in the invention. **IMPORTANT!** - If you know for a fact that your idea was embodied in a product offered for sale or used by Dell more than a year ago, then please tell us now; otherwise you will have to refund your invention award to the company at a later date.

FIRST DISCLOSURE, USE OR OFFER OF SALE OF THE INVENTION:

Date of conception:	05/01	Invention first described in:	HP Blade Schematics
Date of reduction to practice: (first working model completed)	10/01	Current location of model:	
Has the invention been disclosed outside of Dell?			No
If Yes, to whom was the disclosure made?			
Was the disclosure made under a Non-Disclosure Agreement (NDA)?			
Planned date of first offer of sale of product using the invention:			05/01/02
Actual date of first offer of sale of product using the invention:			05/01/02
Date of first production use of the invention or ship date:			05/01/02

INDUSTRY STANDARDS / STANDARDS COMMITTEES:

Does this invention relate to or incorporate any industry standards?	No
Which standard?	
Name of standard setting committee:	
Is Dell a member of this standard setting committee?	No
Name of Dell's representative to the standard setting committee:	

LINE OF BUSINESS:

This section directly affects how the invention disclosure will be assigned to a Dell Attorney - please select the business line to which your invention is ***MOST CLOSELY RELATED***:

- In the left column, please select **only** one PRODUCT LINE (this will determine which Dell Attorney will be assigned to your invention).
- Understandably, a disclosure may fit more than one choice in this section – in the right column, please mark all that apply to your invention.

Mark ONE Only	Product Line	Mark All that Apply
	Dimension	
	Optiplex	
	Inspiron	
	Latitude	
X	Servers	X
	Workstations	
	Storage	X
	E-Commerce/Dell On-Line	
	Software	
	Manufacturing	X
	Wireless	
	DellPlus	
	Other (please explain):	All products with live insertion feature.

Official PRODUCT/PROJECT CODE NAME(S) in which invention is or will be incorporated: SHREDDER
--

COMPLETE WRITTEN DESCRIPTION OF INVENTION:

Prepare a written description of your invention using the outline below. Just fill in the blank after each topic. Adjust the amount of space for each topic as needed. Be sure to include any sketches, diagrams, flow charts, drawings, etc. which will aid in understanding the invention. Remember – short is good.

a) THE PROBLEM

In server applications where multiple CPU boards share a common power supply, a large inrush current is needed to power up all CPU boards simultaneously. This results in a costly power supply that is over-built for steady-state use. By assigning a unique address to each CPU board, a central control mechanism could sequence the power to each CPU board, thus reducing the total inrush current. This introduces a single point of failure into the chassis since the control mechanism is required to power up the CPU boards. Additionally, jumper settings on the individual CPU boards would have to be properly set, ensuring that no two CPU boards share a common address.

b) THE PRIOR METHODS/APPARATUS USED TO SOLVE THE PROBLEM

Previously, the power supply was designed to supply large spikes of current during CPU board power up. An alternative approach involves the use of jumpers to set a unique address on a CPU board, which would then allow a central control mechanism to sequence power to the individual devices.

c) YOUR PROPOSAL TO SOLVE THE PROBLEM

We propose a method to assign a unique address to each individual CPU board that would then determine the board's startup time, independent of a central controller. The unique address would be assigned to the CPU board by the midplane through resistor strapping, which would be based on its position in the chassis. As a result, the CPU board itself does not require any jumper settings or unique identifying features. This unique address would then allow a central controller to sequence power to the CPU boards. In the absence of the central controller, each CPU board would power up individually based on its unique address (see Table 1 for an example). Each board would use its assigned address value to program a digital timer that would power up the board after its preset time expired. Since each address is unique, it would ensure sequenced power up without the need of the central controller, thus removing a single point of failure for the chassis. Additionally, since the address is assigned based on the position the CPU board, there is no need for a user to assign addresses manually. This allows different CPU boards to be placed into different chassis's without any pre-configuration steps.

This method provides a strategic advantage to Dell since it eliminates a single point of failure for a chassis with multiple CPU boards. In addition, it reduces overall system cost by reducing total power supply output, removing jumpers from each CPU board, and reducing assembly time.

d) DRAWING, SKETCH

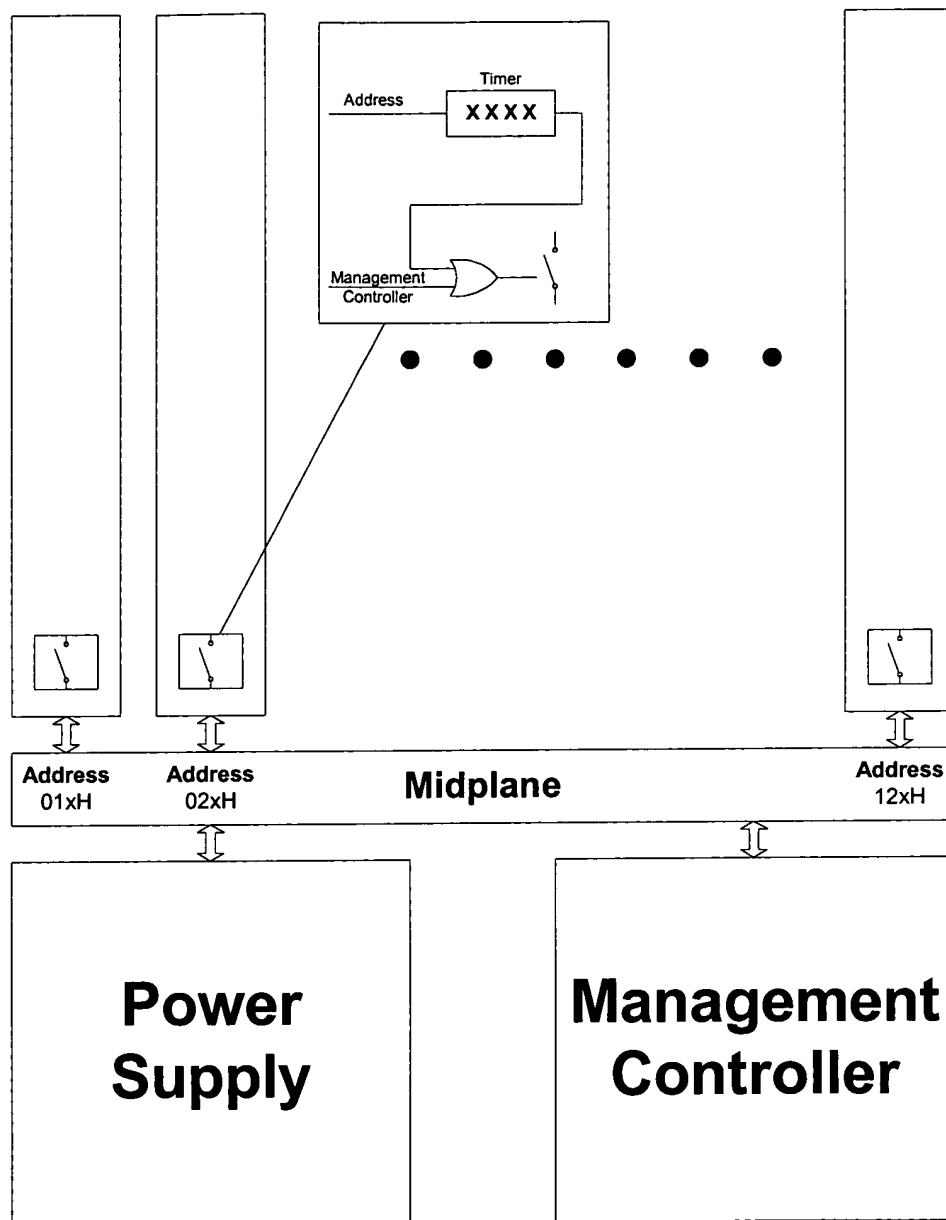


Figure 1. Example chassis with slot addresses.

Table I. Example Startup Time for a Given Address

Midplane Strapping	Startup Time
01xH	2 seconds
02xH	4 seconds
03xH	6 seconds
04xH	8 seconds
05xH	10 seconds

WITNESSES: (Please list two Dell witnesses below.)

Each witness should at least read about and understand the invention. The best witnesses will also have observed the invention in actual operation.

WITNESS 1:	Ashley Gorakhpurwalla
------------	-----------------------

WITNESS 2:	Scott Ramsey
------------	--------------